

REMARKS

Claims 1-37 are all the claims pending in the application.

I. Claim Rejections - 35 USC § 102

A. Claims 1, 2, 6, 11, 22, 27, 31, 34, and 36 stand rejected under 35 U.S.C. 102(b) as being anticipated by Schantz U.S. Patent 5,124,720.

B. Claims 11, 13, 14, and 15 stand rejected under 35 U.S.C. 102(e) as being anticipated by Tanaka et al. U.S. Patent 6,123,341.

II. Claim Rejections - 35 USC § 103

A. Claims 3, 12, 16-21, 23, 28, and 32 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Schantz U.S. Patent 5,124,720 as applied to claims 1, 11, and 22 above, and further in view of Ogata et al. U.S. Patent 5,722,007.

B. Claim 4 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Schantz U.S. Patent 5,124,720 as applied to claim 1 above, and further in view of Aosaki et al. U.S. Patent 5,467,198.

C. Claim 5 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Schantz U.S. Patent 5,124,720 as applied to claim 1 above, and further in view of Saito U.S. Patent 4,561,789.

D. Claims 7, 8, 10, 29, and 30 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. U.S. Patent 6,123,341 and Noyes et al U.S. Patent 6,775,022.

E. Claim 9 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. U.S. Patent 6,123,341 and Noyes et al U.S. Patent 6,775,022 as applied to claims 7 and 8 above, and further in view of Terajima et al. U.S. Patent 6,785,026.

F. Claims 24 and 35 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Schantz U.S. Patent 5,124,720, Komiya et al. U.S. Patent 6,287,027, and Ui et al. U.S. Patent 6,340,984.

G. Claims 25 and 26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Schantz U.S. Patent 5,124,720, Komiya et al. U.S. Patent 6,287,027, and Ui et al. U.S. Patent 6,340,984 as applied to claim 24 above, and further in view of Noyes et al. U.S. Patent 6,297,888.

H. Claim 33 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Schantz U.S. Patent 5,124,720 as applied to claim 20 above, and further in view of applicant's admitted prior art.

I. Claim 37 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. U.S. Patent 6,123,341 and Noyes et al U.S. Patent 6,775,022 as applied to claim 7 above, and further in view Schantz U.S. Patent 5,124,720.

III. Applicant's Response

The Examiner has conceded that "Schantz does not print on a sheet, detect whether a print defect occurs on that sheet, and (subsequently) correct the print defect on that same sheet." (Office Action, page 2) Further, with regard to the teachings of both Tanaka and Schantz, the

Examiner has presupposed that “Two separate sheets of paper are considered the same recording material if they are composed of the same type of paper.” (Office Action, pages 2-7)

Applicant respectfully traverses the 35 U.S.C. §§102 and 103 rejections.

A. Claims 1, 7, 8, 11, 16, 19, 22, and 24

The following remarks are for independent claim 1, but apply by analogy to independent claims 7, 8, 11, 16, 19, 22, and 24.

Applicant submits that the Examiner’s position, in which two separate sheets of paper are considered the same recording material if they are composed of the same paper, is unsupportable based on the antecedent basis of the claims.

Claim 1 requires:

A serial printing method for recording an image on a recording material one line by one line, said line including **one or more rows** and said line being recorded by moving a recording head in a width direction of said recording material, said serial printing method comprising the steps of:

recording said row with said recording head on said recording material;

detecting whether or not *a print defect occurs on said recorded row* on said recording material; and

performing correction recording, on said recording material, relative **to said row on which said print defect occurs**.

The recording of said row, detecting of a print defect, and performing of correction recording of said print defect are performed on said recorded row on the recording material. Said recorded row cannot be considered as a different recorded row on a different sheet of paper. Said recorded row has to be on the same page as the originally recorded row, and any reference to said recorded row is based on the originally recorded row. Because of the antecedent basis,

said recorded row cannot be any arbitrarily recorded row on any arbitrary sheet of recording material. It has to be the same recorded row that is recited throughout claim 1. Consequently, since the recorded row is on a single page, any further references to that recorded row have to be with respect to the same page. No other page has said recorded row recorded on it.

Additionally, parallel arguments apply with respect to the antecedent basis of a recorded portion, said defective portion, said image, said row, etc., as recited in the remaining independent claims.

Even taken for what they would have meant to a skilled artisan as a whole, the combined teachings of Tanaka, Schantz, Komiya, Ui, Noyes, Terajima, Ogata, Aosaki, and Saito do not disclose the above-identified features of claim 1 having the proper the antecedent basis. Therefore, claim 1 is patentable over the combined teachings of the applied references.

Since claims 7, 8, 11, 16, 19, 22, and 24 contain features that are similar to, though not necessarily coextensive to, the features recited in claim 1, Applicant submits that claims 7, 8, 11, 16, 19, 22, and 24 are patentable at least for reasons analogous to those submitted for claim 1.

Therefore, for at least the foregoing reasons, Applicant respectfully requests the Examiner to withdraw the 35 U.S.C. §§102 and 103 rejections of claims 1-37 pending in the application.

Claim 36

Further, regarding claim 36, the Examiner posits that col. 3, lines 24-34 of Schantz teaches recording said row, detecting a print defect on said recorded row, and performing correction recording on said row occur during a same recording operation.

However, in Schantz, the process of (1) detecting malfunctioning printing elements is separate and distinct from (2) recording said row and (3) performing correction recording on said row. The above-mentioned processes do not occur during the same recording operation in Schantz. The process of detecting a malfunction is described in col. 3, lines 35-45, which is separate from performing any correction on said row. Unlike claim 36, detection and correction are two discreet steps that do not occur during the same operation. In fact, Shantz does not explicitly disclose the process of performing *correction recording on said recorded row*.

Moreover, none of the processes in Schantz are with respect to said recorded row. Even if the Examiner assumes, *arguendo*, that “Two separate sheets of paper are considered the same recording material if they are composed of the same type of paper”, this untenable position cannot be further extended to stand for said recorded row being on two separate sheets of paper. Claim 1 requires **recording said row**, detecting a print defect **on said recorded row**, and performing correction **recording on said row** which all occur during a same recording operation.

Applicant submits that Schantz makes no disclosure about the recorded row, in that a print defect is detected on said recorded row, and then correction is performed on said recorded row. The antecedent basis of said recorded row cannot be disregarded in an attempt to make Schantz read on the claim language. Indeed, it is implicit that said recorded row is on the same page. Col. 3, lines 24-34 of Schantz discusses a nozzle substitution method that tests the printhead, chooses the substitute printing elements for printing, reroutes the print signals, and alters the scan path. Nevertheless, col. 3, lines 24-35 does not read on *recording said row*,

detecting a print defect on *said recorded row*, and performing correction *recording on said row*, which occurs *during a same recording operation*.

For at least the foregoing reasons, claim 36 is not anticipated by Schantz. Applicant respectfully requests that the 35 U.S.C. § 102 rejection of claim 36 be withdrawn.

Claim 37

Further, regarding claim 37, the Examiner has conceded that Tanaka does not teach obtaining a measured density of a recorded portion, obtaining a predicted density to be recorded on said portion and performing correction recording to the defective portion which all occur during a same recording operation (Office Action, page 25). In particular, Tanaka discloses that “the recognizing operation of the defective dot-forming element is not performed when the document is printed...the serial recording apparatus may perform only the printing of the document in a document print mode, while not performing the recognition of the defective dot-forming element (col. 2, lines 64-67 through col. 3, lines 1-2).

Noyes, applied for its teaching regarding the density detecting means, does not teach the that the above-identified operations occur at the same time.

Schantz (combined with Tanaka and Noyes) fails to teach or suggest obtaining a measured density of a **recorded portion**, obtaining a predicted density to be **recorded on said portion**, comparing said measured density with said predicted density **every portion**, and performing correction recording to the **defective portion** occur **during a same recording operation**.

As discussed earlier, the process of detecting a print defect and printing to correct the defect, in Schantz, are two discreet steps that do not occur during the same operation. Schantz discusses three ways for testing the printing elements: (1) using a detector which can be a piezoelectric membrane drop detector that sends out an electrical signal whenever a drop strikes it, (2) using an opto-electronic dot detector that measures the amount of light reflected from the paper, and (3) having a person examine a test pattern produced by the printer and types in the location of the malfunctioning printing element (col. 3, lines 35-45). In Schantz, the process of detecting a defective print element, which ultimately results in rerouting the print signals, is an entirely different procedural step from performing correction recording to correct the defective recorded portion. Schantz makes no disclosure that the two processes occur during the same operation. In fact, the process for testing the printing elements is wholly separate from any printing to correct the recorded defective portion, and no opportunity is afforded during the testing of the printing elements to perform correction recording on the defective portion.

Further, it is clear that teachings of Shantz, Tanaka, and Noyes combined fail to teach or suggest a **recorded portion**, which has been measured, determined to be the defective portion, and corrected by recording to the defective portion of the recording material. That is, the combined references make no disclosure regarding performing all the requirements of claim 1 on the same **recorded portion** that is the **defective portion**, as recited in claim 1. Indeed, it is understood that since each operation is performed on the **recorded defective portion**, it cannot be reasonably read that the **same recorded defective portion** is on two separate/different sheets

RESPONSE UNDER 37 C.F.R. § 1.116
U.S. Application No.: 09/855,943

of paper. On the contrary, a more logical deduction is that the **same defective portion** occurs on the same page of the recording material.

For at least the foregoing reasons, Applicant submits that claim 37 is not rendered obvious by the combined teachings of the reference. Therefore, the 35 U.S.C. § 103 rejection of claim 37 should be withdrawn.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

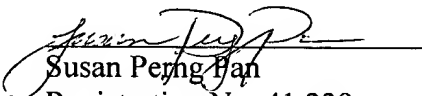
Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER


Susan Perng Han
Registration No. 41,239

Date: April 4, 2006